CONFIDENTIAL

Beringer, Carrie

From: Lorah, Steve
Sent: Thursday, December 22, 2011 12:40 PM
To: Hamrick, Winde; Shorokey, Christine; Sadler, Randy; Moyer, Keith; Beringer, Carrie; Moffett, Curt
Cc: Peterka, John; Bowers, Charles A.; Krebs, Patrick J.; Murray, Frank
Subject: FW: WTI Investigation Question (Confidential/Attorney-client Privilege);
Attachments: Cal Grind 1541 MSDS.PDF; Hangsterfers S-500 CF MSDS.pdf

Info from Wah Chang.

From: Hamilton, Frank [mailto:Frank.Hamilton@ATImetals.com]
Sent: Thursday, December 22, 2011 10:33 AM
To: Avdellas, John; Davis, Lorraine; Lorah, Steve
Cc: Weber, Lee; Bodily, Ryan; Denham, Jim; McAndrews, Lauren
Subject: FW: WTI Investigation Question (Confidential/Attorney-client Privilege);

Zirconium grinding swarf is produced from surface conditioning (coarse belt sanding/grinding) of zirconium alloy plate that is made at the ATI Wah Chang facility in Albany, Oregon. It is our understanding that the material at issue was likely from surface conditioning two zirconium based alloys, Zirconium 702 and Zirconium 700. Zirconium 702 is comprised of >94% zirconium, 0-2% hafnium, 0-3% niobium, 0-1.8% tin, 0.02% iron, and 0-0.12% chromium. Zirconium 700 is composed of 99.5% zirconium + hafnium, 4.5% hafnium, and 0.2% iron + chromium. The surface conditioning is performed at ATI Precision Finishing in Rochester, Pennsylvania. The Precision Finishing facility also performs surface conditioning on a titanium alloy called Ti 6-4, which is 90% titanium, 6% aluminum, and 4% vanadium. If any titanium alloy was in the zirconium swarf it would be minimal since the zirconium metal working is only performed on one surface grinder, which is cleaned between zirconium and titanium plate work. This cleaning process is extensive enough to predict that there would be very minimal titanium alloy in the zirconium swarf. During surface grinding, the zirconium alloy plate and swarf are saturated with a 3-5% solution of water soluble coolant called Cal Grind 1541 as detailed in the attached MSDS. There have been no recent changes in the brand of cutting fluid. As swarf is generated, it is rinsed with water and packaged directly into a used drum and covered with water. It takes about 12 hours of grinding to fill one drum. The drums are consistently ¾ to 4/5 full of swarf tightly packed with several inches of water on top. Dry pockets are possible, but unlikely with this method of packaging.

Earlier this year 40 drums of zirconium grinding swarf were produced and packaged at ATI Precision Finishing's Rochester facility. In an effort to determine if the swarf had recycle value, the drums were shipped from ATI Precision Finishing to ATI Wah Chang in Oregon. The DOT hazard class (4.2, spontaneously combustible) was conservatively selected based on a specific DOT shipping name for zirconium scrap. Over the period of several months, ATI Wah Chang sampled the drums and determined that the swarf did not have any recycling value due to the potential of aluminum from the titanium and the grinding media. In addition, testing was performed to determine that the DOT hazard class for the material was more appropriately 4.1 (flammable solid). In consultation with Veolia technical staff, Wah Chang was advised to ensure the 55 gallon drums were filled with oil. Prior to shipment to WTI, ATI Wah Chang "topped off" each drum with used dilute water soluble oil that is commonly used for metal working (MSDS for Hangsterfer's S-500 CF is attached). The lids were removed and the oil was added from the top. The drums were placed into 85 gal steel overpack drums to avoid repacking the

material. Fluid observed on the outside of the inner drum may be due to the condition of the inside drum. Wah Chang did not contract with WTI for disposal. It is our understanding that the waste disposal company that it contracted with arranged for the incineration by WTI. It was Wah Chang's understanding that the 55 gallon containers would be fed directly into an incinerator. ATI Wah Chang was not aware that WTI was repackaging this material into smaller charges.

Wah Chang shipped (40) 55 gallon drums of Zirconium Swarf manifested as DOT Shipping name Flammable Solid, Inorganic, n.o.s., (Zirconium, Hafnium) on 12/6/2011 under Veolia profile 434443. This profile identifies the chemical composition of the swarf as up to 100% zirconium.

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ATI

Frank Hamilton
Supervisor, Solid Waste

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HERITAGE-WTI

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OHSAS 18001: 2007
ISO 14001: 2004
ISO 9001: 2008

February 21, 2012

Mr. Robert Garner
Vice President Compliance and Quality
Veolia ES Technical Solutions L.L.C.
700 E. Butterfield Road, Suite 201
Lombard, IL 60148

Re: Heritage-WTI, Inc. 12/17/11 Incident

Dear Bob:

This letter follows up on our various telephone conversations and emails over the past several weeks concerning the incident that occurred at our East Liverpool, Ohio facility on December 17, 2011.

We first spoke about the incident on the morning of December 19th. At that time, Lorraine Davis and I relayed to you the basic facts concerning the incident as we knew them at that time, namely, that two Heritage-WTI employees were injured, one critically, as a result of a fire and explosion that occurred as they were splitting waste received from Veolia customer Wah Chang, located in Albany, Oregon. We advised you that Heritage-WTI was investigating the incident, including any and all potential causes of the accident. We also advised you that we were in the process of gathering as much information as possible regarding the Wah Chang waste that was involved in the incident. In that regard, I asked you if we could contact the generator in order to learn more about the material that was shipped to Heritage-WTI as well as Wah Chang's storage, packaging, and shipping processes. In response, you encouraged Heritage-WTI to contact Wah Chang directly, which we did later that day.

On December 22nd Frank Hamilton of Wah Chang responded by email to a list of questions that we asked concerning the waste Veolia shipped to Heritage-WTI and the process that generated the waste. In his response, Mr. Hamilton indicated that Veolia profile 434443 identified the chemical composition of the waste as being up to 100% zirconium. As you are aware, Heritage-WTI profile 92796-1 for Wah Chang's waste calls for a maximum of 65% zirconium. Thus, Mr. Hamilton's December 22nd email on its face indicates that the waste Veolia shipped to Heritage-WTI did not conform to the description and specifications set forth in Heritage-WTI's waste profile. I forwarded Mr. Hamilton's email response to you by email a few hours later and asked you for a copy of Veolia profile 434443 to assist with our investigation. You provided me with a copy of the profile by email later in the afternoon on December 22nd.

Due to the effect that the December 17th fire and explosion has had on our operations and the safety hazards associated with performing such a task, we have not been able to pull a sample of the waste from the remaining drums for testing. Instead, several Heritage-WTI representatives traveled to Wah Chang's Albany, Oregon, facility on January 17, 2012 and to Precision Finishing's Rochester, Pennsylvania, facility on February 15, 2012 to learn more about the waste that Veolia shipped to Heritage-WTI and Wah Chang's and Precision Finishing's storage, packaging, and shipping processes.

What has been determined thus far is that Wah Chang, through Veolia, shipped the material to Heritage-WTI knowing that we would have to repackage the material into 400-pound charges per our waste profile. Prior to shipment, the waste was contained in drums that had holes punched in them and labeled as spontaneously combustible. The waste was allowed to go from a wet to dry state, at which point fluid was added to the 55-gallon drums. Due to the condition of the 55-gallon drums, they were placed into 85-gallon over packs and then labeled as flammable solids. It was further discovered that Wah Chang opted not to repackage the waste prior to shipment to Heritage-WTI based upon the known dangers of the swarf's unusually small diameter, possible contaminants, and allowing zirconium to go from a wet to dry state or vice versa. These drums were manifested into Heritage-WTI as non-hazardous waste.

The information gathered during our trips to Wah Chang and Precision Finishing confirmed Frank Hamilton's comment in his December 22nd email that the waste in question contained up to 100% zirconium. The information we gathered during these trips also confirmed that the waste that Veolia sent to us did not conform to the description and specification set forth in the Heritage-WTI profile 92796-1 and that it was generated by a third party using a different process. The drums involved in the incident contained materials that were capable of causing fire through friction, absorption of moisture, exposure to air, or spontaneous chemical changes. When ignited, they burned so vigorously and persistently so as to create a hazard. Further, the drums involved in the incident contained materials that were readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure.

In light of the foregoing, Heritage-WTI hereby rejects the waste. Please note that we have 32 of the 40 containers remaining at our facility. There is also one additional drum that was present at the scene of the incident. This drum will remain at our facility and will be preserved as evidence. Please contact me by February 24, 2012 so that we can come to an agreement as to the lawful disposition of the remaining waste.

In the meantime, thank you for your efforts in assisting our investigation of this incident. Please feel free to contact me if you should have any questions.

Sincerely,

John Avdellas
Vice President Sales & Marketing

VEOLIA
ENVIRONMENTAL SERVICES

February 24, 2012

Mr. John Avdellas
Vice President Sales & Marketing
Heritage-WTI, Inc.
1250 St. George Street
East Liverpool, Ohio 43923-3400

RE: Heritage-WTI, Inc. 12/17/11 Incident

Dear John:

I am responding to your letter dated February 21, 2012 that was received as an email attachment on February 23, 2012.

Thank you for advising that the waste from Wah Chang referenced in your letter has been rejected. We are contacting the generator to inform them that their waste has been rejected, and are also requesting their instructions regarding disposition of the 32 containers referenced in your letter. We will let you know as soon as Wah Chang provides instructions regarding the waste.

In the interim, please forward a copy of the manifest that accompanied the waste shipment from Wah Chang, and also a copy of the Heritage-WTI profile 92796-1 to my attention.

Sincerely,

Robert J. Garner
Vice President Compliance and Quality
Veolia ES Technical Solutions, L.L.C.
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Email: robert.garner@veoliaes.com

cc: Tom Anckner
Vince Brown
Eric Feist
Sean Hixenbaugh